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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,875	07/31/2001	Alexander Tormasov	848265-10	2443

23879 7590 01/29/2004

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LOS ANGELES, CA 90071-2899

EXAMINER
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BONURA, TIMOTHY M

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/918,875

Applicant(s)

TORMASOV ET AL.

Examiner

Tim Bonura

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5, 7-8, and 11 rejected under 35 U.S.C. 102(b) as being anticipated by

Hughes, U.S. Patent Number 6,532,548. Regarding claim 1:

- a. Regarding the limitation of “defining an amount of data pieces,” Hughes teaches of a system with data that is striped onto storage units. Data being striped is show to be placed in “chunks” on storage units. (Lines 25-29 and 36-45 of Column 4).
- b. Regarding the limitation of “defining a minimal amount of data pieces k needed to restore a data file,” Hughes teaches that of parity data being included and stored on the storage units. (would be k value) The parity data is used to restore files incase of a loss of a storage unit. (Line 48-54 and 62-65 of Column 4).
- c. Regarding the limitation of “for a distributed arbitrarily-connected network of L servers, defining a number M of the servers that could be rendered inaccessible,” Hughes teaches of the L number of servers when a system with “N storage elements arranged in

parallel for concurrent access, where N is an integer greater than three" is disclosed.

(Lines 44-48 of Column 2). Hughes teaches of a number of servers being rendered inaccessible by disclosing "data to be received by one of the N-2 storage elements is then written to the Nth storage element if the one of the N-2 storage elements is unresponsive for receiving data." (Lines 55-59 of Column 2).

- d. Regarding the limitation of "creating at least M+k data pieces for storage on at least M+k servers; whereby the ability to restore the data file from M servers is retained and the optimal utilization of data storage means obtained," Hughes discloses a system that can create data "chunks" and store them on a number of storage member. (Lines 11-16 of Column 5). Hughes discloses an example with 6 storage members. (Lines 13-14 of Column 5). One of the members is unresponsive. (Lines 41-49 of Column 5). The data and parity information is stored on 4 members. (Lines 15-17 of Column 5). The system is thereby has 2 member redundancy. ( $6 - 4 = 2$ , would be M value). The system (see Figure 3) stores each parity data twice across the member storage units. Thereby the redundant members (M) plus the number of parity data chunks (k) would represent the "M+k data piece for storage on M+k servers." (from claim 1).
2. Regarding claim 2, Hughes discloses the data pieces are numbered. (See figure 3, data chunks). Hughes also discloses that the data chunks are of the same size. (Lines 40-45 of Column 4).
3. Regarding claim 4, Hughes discloses that there are 6 storage members (L) (Lines 13-14 of Column 5), 4 of which (M) are needed for redundancy. (Lines 15-18 of Column 5).
4. Regarding claim 7:

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e. Regarding the limitation of “defining an amount of data pieces,” Hughes teaches of a system with data that is striped onto storage units. Data being striped is shown to be placed in “chunks” on storage units. (Lines 25-29 and 36-45 of Column 4).

f. Regarding the limitation of “defining a minimal amount of data pieces  $k$  needed to restore a data file,” Hughes teaches that of parity data being included and stored on the storage units. (would be  $k$  value) The parity data is used to restore files in case of a loss of a storage unit. (Line 48-54 and 62-65 of Column 4).

g. Regarding the limitation of “for a distributed arbitrarily-connected network of  $L$  servers, defining a number  $M$  of the servers that could be rendered inaccessible,” Hughes teaches of the  $L$  number of servers when a system with “ $N$  storage elements arranged in parallel for concurrent access, where  $N$  is an integer greater than three” is disclosed. (Lines 44-48 of Column 2). Hughes teaches of a number of servers being rendered inaccessible by disclosing “data to be received by one of the  $N-2$  storage elements is then written to the  $N$ th storage element if the one of the  $N-2$  storage elements is unresponsive for receiving data.” (Lines 55-59 of Column 2).

h. Regarding the limitation of “creating at least  $M+k$  data pieces for storage on at least  $M+k$  servers; whereby the ability to restore the data file from  $M$  servers is retained and the optimal utilization of data storage means obtained,” Hughes discloses a system that can create data “chunks” and store them on a number of storage member. (Lines 11-16 of Column 5). Hughes discloses an example with 6 storage members. (Lines 13-14 of Column 5). One of the members is unresponsive. (Lines 41-49 of Column 5). The data and parity information is stored on 4 members. (Lines 15-17 of Column 5). The system

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is thereby has 2 member redundancy. ( $6 - 4 = 2$ , would be M value). The system (see Figure 3) stores each parity data twice across the member storage units. Thereby the redundant members (M) plus the number of parity data chunks (k) would represent the "M+k data piece for storage on M+k servers." (from claim 1).

4. Regarding claim 2, Hughes discloses the data pieces are numbered. (See figure 3, data chunks). Hughes also discloses that the data chunks are of the same size. (Lines 40-45 of Column 4).

5. Regarding claim 4, Hughes discloses that there are 6 storage members (L) (Lines 13-14 of Column 5), 4 of which (M) are needed for redundancy. (Lines 15-18 of Column 5).

### ***Claim Rejections - 35 USC § 112***

6. Claims 3, 5, 9 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 3, 5, 9 and 11 recites the limitation "n" in claim 1 and 7, respectively. There is insufficient antecedent basis for this limitation in the claim.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tim Bonura**.

- The examiner can normally be reached on **Mon-Fri: 7:30-5:00, every other Friday off**. The examiner can be reached at: **703-305-7762**.

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9. If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, **Rob Beausoliel**.

o The supervisor can be reached on **703-305-9713**.

10. The fax phone numbers for the organization where this application or proceeding is assigned are:

o **703-872-9306 for all patent related correspondence by FAX.**


11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **receptionist** whose telephone number is: **703-305-3900**.

12. Responses should be mailed to:

o **Commissioner of Patents and Trademarks**

**P.O. Box 1450**

**Alexandria, VA 22313-1450**

  
**NADEEM IQBAL**  
**PRIMARY EXAMINER**

Tim Bonura  
Examiner  
Art Unit 2114

tmb  
January 15, 2004